GENERAL PLUMBING NOTES

GENERAL

LEAD-FREE STATEMENT

SEVERAL PLUMBING FIXTURES DESCRIBED IN THIS SECTION FALL UNDER JURISDICTION OF THE FEDERAL REDUCTION OF LEAD IN DRINKING WATER ACT (42 USC 300G) WHICH MANDATES THAT EFFECTIVE JANUARY 4, 2014 THE WETTED SURFACES OF ANY VALVE, FITTING OR FIXTURE THAT COMES IN CONTACT WITH POTABLE WATER MUST HAVE A WEIGHTED-AVERAGE LEAD CONTENT OF NO MORE THAN 0.25 PERCENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PRODUCTS THAT ARE LEAD-FREE PRODUCTS AND MEET THE REQUIREMENTS OF SAFE DRINKING WATER ACT SECTION 1417 (E) (SECTION 9 OF NSF/ANSI STANDARD 61) AND AUTHORITIES HAVING JURISDICTION.

WHEN A CONFLICT BETWEEN THE DRAWINGS, NOTES AND/OR SPECIFICATIONS OCCUR, THE MORE STRINGENT, AND/OR LARGER QUANTITY AND/OR MORE EXPENSIVE SHALL APPLY. THE REQUIREMENTS LISTED WITHIN NOTES OR SPECIFICATIONS SHALL BE REQUIRED, PROVIDED AND INSTALLED WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.

IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO PROVIDE FOR FINISHED WORK, TESTED AND READY FOR OPERATION.

ITEMS AND SERVICES NOT SHOWN ON DRAWINGS OR SPECIFICATIONS BUT REQUIRED TO RENDER THE WORK COMPLETE AND READY FOR OPERATION, SHALL BE PROVIDED WITHOUT ADDITIONAL COST.

WORK OF THIS SECTION SHALL BE GOVERNED BY THE CONTRACT DOCUMENTS. PROVIDE MATERIALS, LABOR, EQUIPMENT AND SERVICES NECESSARY TO FURNISH, DELIVER AND INSTALL ALL WORK AS SPECIFIED AND AS REQUIRED BY JOB CONDITIONS. WHERE A CONFLICT EXISTS BETWEEN THESE NOTES, THE DRAWINGS AND THE SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

DRAWINGS ARE DIAGRAMMATIC AND INDICATE A GENERAL ARRANGEMENT OF WORK AND ARE NOT TO BE CONSIDERED SUB-CONTRACTOR DOCUMENTS. IT IS THE INTENT OF THESE DOCUMENTS TO INCLUDE THE PROVISION AND INSTALLATION OF ALL NECESSARY WORK AND MATERIALS FOR COMPLETE, OPERATIONAL AND CODE COMPLIANT SYSTEMS BY THE CONTRACTOR. GENERAL DESIGN CONCEPTS INDICATED MUST BE FOLLOWED OR BETTERED. THE BID SHALL INCLUDE OFFSETS, ADDITIONAL PIPING, VALVES AND EQUIPMENT AND COMPONENTS AS REQUIRED TO MEET CONSTRUCTION CONDITIONS FOR PROPER OPERATION. DO NOT SCALE DRAWINGS. CONSULT ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPACE CONDITIONS AND ADDITIONAL REQUIREMENTS.

PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT GENERAL CONDITIONS AND WITH THE PROVISIONS OF ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND LAWS.

WORK SHALL INCLUDE ALL INCIDENTALS, LABOR, MATERIAL, EQUIPMENT, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPPORTS, TOOLS, CONSUMABLE ITEMS, FEES, LICENSES, AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE WORK SHOWN ON THE DRAWINGS, SPECIFIED HEREIN AND AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM..

STORE MATERIALS INSIDE AND PROTECTED FROM DEBRIS, WEATHER AND MOISTURE.

THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL POWER AND CONTROL WIRING REQUIRED FOR EQUIPMENT OPERATION REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THIS CONTRACTOR SHALL PROVIDE MOTOR STARTERS FOR INSTALLATION. COORDINATE REQUIREMENTS.

PROVIDE AND INSTALL ALL MAKE-UP WATER DISTRIBUTION TO HVAC EQUIPMENT INCLUDING BACKFLOW PREVENTER.

PROVIDE AND INSTALL INDIRECT CONDENSATE WASTE PIPING AND TRAP TO FLOOR DRAIN OR DRAIN RECEPTOR FROM ALL HVAC EQUIPMENT. PROVIDE ADDITIONAL FLOOR DRAINS WITH TRAP PRIMERS OR DRAIN RECEPTORS AS REQUIRED.

COORDINATION DRAWINGS

DEVELOP AND SUBMIT COORDINATION DRAWINGS AS OUTLINED.

SHEET METAL, PLUMBING AND FIRE PROTECTION SHOP DRAWINGS THAT HAVE BEEN COORDINATED WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. DRAWINGS MUST BE RETURNED FROM ENGINEER EITHER "REVIEWED" OR "FURNISH AS CORRECTED" PRIOR TO BEING USED AS BASIS FOR COORDINATION DRAWINGS.

AFTER SHEET METAL AND PIPING DRAWINGS HAVE BEEN REVISED PER ENGINEERS COMMENTS, REPRODUCIBLE COPIES SHALL BE SENT TO THE TRADES IN THE FOLLOWING SEQUENCE FOR THE INCLUSION OF THEIR WORK:

-MECHANICAL SHEET METAL
-PLUMBING PIPING
-MECHANICAL PIPING
-SPRINKLER PIPING
-ELECTRICAL WORK

AFTER ALL TRADES HAVE INCLUDED THEIR WORK ON THE COORDINATION DRAWING AND NOTED CONFLICTS, ALL TRADES SHALL MEET TO RESOLVE CONFLICTS AND AGREE TO ACCEPTABLE SOLUTIONS. EACH TRADE SHALL SIGN COORDINATION DRAWINGS. ITEMS NOT SHOWN ON COORDINATION DRAWING IS RESPONSIBILITY OF OMITTING CONTRACTOR AND CONTRACTOR IS SUBJECT TO ADDITIONAL COSTS INCURRED BY OTHER TRADES.

THE ARCHITECT AND ENGINEER ARE NOT PART OF THE COORDINATION DRAWING PROCESS. THE ENGINEER WILL PROVIDE ASSISTANCE FOR NOTED CONFLICTS ONLY. COORDINATION DRAWINGS ARE NOT TO BE CONSIDERED PIPING OR DUCT SHOP DRAWINGS. THE CONTRACTOR IS REQUIRED TO SUBMIT INDIVIDUAL PIPING AND DUCTWORK SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. PIPING AND DUCTWORK SHOP DRAWINGS SHALL FOLLOW THE DESIGN INTENT OF THE CONTRACT DOCUMENTS.

SUBMIT FINAL SIGNED COORDINATION DRAWING TO ENGINEER FOR REVIEW. ENGINEER WILL REVIEW COORDINATION DRAWINGS FOR GENERAL ARRANGEMENT AND FOR NOTED CONFLICTS ONLY. SPECIFIC INSTALLATION REQUIREMENTS WILL BE REVIEWED ONLY IN INDIVIDUAL TRADE SHOP DRAWINGS.

ANY WORK FABRICATED OR INSTALLED PRIOR TO SIGN OFF BY ALL TRADES WHICH IS DEEMED TO BE IN CONFLICT WITH COORDINATION DRAWINGS SHALL BE REMOVED AND RE-INSTALLED IN CONFORMANCE WITH COORDINATION DRAWINGS.

EACH CONTRACTOR (MENTIONED ABOVE) IS RESPONSIBLE FOR THE COORDINATION OF HIS SUB-CONTRACTORS.

THE OVERALL COORDINATION OF THE COORDINATION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER IS NOT RESPONSIBLE FOR THE COORDINATION PROCESS. THE ENGINEER WILL RESPOND TO QUESTIONS THAT ARISE FROM THE COORDINATION PROCESS. DRAWINGS SUBMITTED WILL BE REVIEWED FOR CLEARLY IDENTIFIED CONFLICTS ONLY. SOLUTIONS TO CONFLICTS WILL NOT BEAR ADDITIONAL COST.

SHOP DRAWINGS

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO BE APPROVED, REVISED, OR RESUBMITTED AS PER THE ENGINEERS COMMENTS, PRIOR TO CONSTRUCTION. INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

-PLUMBING FIXTURES
-PIPING
-BRAZING
-VALVES
-CLEAN OUTS
-PIPE SEALS
-HANGERS/SUPPORTS
-DRAINS
-FITTINGS
-INSULATION

AS BUILT DRAWINGS

PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS REFLECTING AS INSTALLED CONDITIONS. AS-BUILT DRAWINGS SHALL INDICATE ALL INSTALLED CONDITIONS OF SYSTEMS WITHIN THIS DISCIPLINE. DRAWINGS SHALL BE OF SIMILAR SCALE AS THE CONSTRUCTION DOCUMENTS AND INCLUDE DETAILS AS NECESSARY TO CLEARLY REFLECT THE INSTALLED CONDITION. DRAWINGS SHALL BE BOUND IN A COMPLETE AND CONSECUTIVE SET. SUPPLEMENTAL SKETCHES AND LOOSE PAPERWORK WILL NOT BE ACCEPTABLE AND WILL BE RETURNED FOR REVISION. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERS COMMENTS TO PRODUCE A CLEAR AND CONCISE SET OF DRAWINGS. DRAWINGS SHALL BE SUBMITTED IN BOTH HARD COPY AND ELECTRONIC (AUTO-CAD VERSION AS REQUIRED BY THE OWNER) VERSION. NUMBER OF COPIES OF EACH AS REQUESTED BY THE OWNER.

PROVIDE "AS-BUILT DRAWINGS" INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN OF THE WORK. INDICATE THE FOLLOWING INSTALLED CONDITIONS:

INCLUDE ALL CHANGES AND AN ACCURATE RECORD, ON REPRODUCTIONS OF THE CONTRACT DRAWINGS OR APPROPRIATE SHOP DRAWINGS, OF ALL DEVIATIONS, BETWEEN THE WORK SHOWN AND WORK INSTALLED.

MAINS AND BRANCHES OF PIPING SYSTEMS, WITH VALVES AND CONTROL DEVICES LOCATED AND NUMBERED, CONCEALED UNIONS LOCATED, AND WITH ITEMS REQUIRING MAINTENANCE LOCATED (I.E., TRAPS, STRAINERS, EXPANSION COMPENSATORS, TANKS, ETC.). VALVE LOCATION DIAGRAMS, COMPLETE WITH VALVE TAG CHART.

EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.

APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.

CONTRACT MODIFICATIONS, ACTUAL EQUIPMENT AND MATERIALS INSTALLED.

SUBMIT FOR REVIEW BOUND SETS OF THE REQUIRED DRAWINGS, MANUALS AND OPERATING INSTRUCTIONS.

SUBMIT A COMPLETE MAINTENANCE MANUAL OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT.

HANGERS AND SUPPORT

SEISMIC RESTRAINT: PROVIDE SEISMIC RESTRAINT AND EXPANSION OF ALL PLUMBING EQUIPMENT AND SYSTEMS IN ACCORDANCE WITH STATE AND FEDERAL BUILDING CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT INDICATING ALL NECESSARY COMPONENT CUTS, PLAN LOCATIONS AND CALCULATIONS FOR A COMPLETE SYSTEM.

PROVIDE ALL NECESSARY STRUCTURAL MEMBERS INCLUDING ADDITIONAL STRUCTURAL SUPPORT TO SUPPORT PIPING AND EQUIPMENT. HANGERS AND SUPPORTS SHALL BE OF AN APPROVED DESIGN NECESSARY TO SUPPORT PIPING, EQUIPMENT AND TO KEEP PIPING IN PROPER ALIGNMENT AND PREVENT TRANSMISSION OF INJURIOUS THRUSTS AND VIBRATIONS. IN ALL CASES WHERE HANGERS, BRACKETS, ETC., ARE SUPPORTED FROM CONCRETE CONSTRUCTION, DO NOT WEAKEN CONCRETE OR PENETRATE WATERPROOFING. ALL HANGERS AND SUPPORTS SHALL BE CAPABLE OF SCREW ADJUSTMENT AFTER PIPING IS ERECTED. HANGERS SUPPORTING PIPING EXPANDING INTO LOOPS, BENDS AND OFFSETS SHALL BE SECURED TO THE BUILDING STRUCTURE IN SUCH A MANNER THAT HORIZONTAL ADJUSTMENT PERPENDICULAR TO THE RUN OF PIPING SUPPORTED MAY BE MADE TO ACCOMMODATE DISPLACEMENT DUE TO EXPANSION. ALL SUCH HANGERS SHALL BE FINALLY ADJUSTED BOTH IN THE VERTICAL AND HORIZONTAL DIRECTION, AS REQUIRED. HANGERS IN CONTACT WITH COPPER OR BRASS PIPE SHALL BE DIELECTRIC, COMPATIBLE WITH COPPER AND BRASS ALLOY OR PROVIDED WITH FELT SLEEVE.

PROVIDE ADDITIONAL SUPPORT FOR PIPING AND EQUIPMENT WHEN DECK IS NOT CAPABLE OF SUPPORT.

BEAM CLAMPS - HANGERS SUPPORTED FROM STEEL SHALL BE CENTER LOADING BEAM CLAMPS FOR HANGERS SUPPORTING PIPING 2 INCHES. FOR PIPING 2-L/2 INCHES AND LARGER, I BEAM CLAMPS SHALL BE FORGED STEEL "C" CLAMPS ARE NOT TO BE USED.

PROVIDE AND INSTALL EXPANSION COMPENSATION FOR ALL PIPING. SUBMIT PLANS, CALCULATIONS AND EQUIPMENT DATA.

PIPE SEALS

SEAL ALL PIPING PASSING THROUGH ALL FIRE AND/OR SMOKE RATED PARTITIONS AND WALLS WITH A UL LISTED, APPROVED AND TESTED FIRE AND/OR SMOKE SEALING MATERIAL INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

ALL PIPING PENETRATING A SLAB ON GRADE OR FOUNDATION WALL BELOW GRADE AND IN CONTACT WITH EARTH SHALL BE PROVIDED WITH A POURED IN PLACE SCHEDULE 80 GALVANIZED STEEL WATER TIGHT SLEEVE WITH INTEGRAL WATER STOP AND SEAL EQUAL TO "LINK SEAL".

FURNISH AND SET STEEL PIPE SLEEVES OF SCHEDULE 40 BLACK STEEL FOR ALL LOCATIONS OF INTERIOR PARTITIONS, WALLS AND FLOORS PROVIDING AT LEAST 1/2" CLEARANCE BETWEEN PIPE INSULATION AND SLEEVE OR PIPE AND SLEEVE. WALL SLEEVES SHALL BE SMOOTH CUT AND SET FLUSH WITH FINISHED WALLS. FLOOR SLEEVES SHALL EXTENDED 2" ABOVE THE FINISHED FLOOR.

ALL PIPING THROUGH WALLS, FLOORS OR CEILINGS SHALL HAVE SLEEVES AND ESCUTCHEONS. PROVIDE A TWO PIECE CHROME ESCUTCHEON WHERE PIPING PASSES THROUGH WALLS OR FLOORS OF FINISHED SPACES.

PLUMBING FIXTURES

PLUMBING FIXTURES SHALL BE NEW, COMPLETE WITH TRIMMINGS AND FITTINGS, INCLUDING FAUCETS, CARRIERS, SUPPLIES, STOPS, TRAPS, TAILPIECES, WASTE PLUGS, CASINGS, HANGERS, PLATES, BRACKETS, ANCHORS, SUPPORTS, HARDWARE AND FASTENING DEVICES. NOTE: ALL FIXTURES SHALL BE OF SAME MANUFACTURER. TRIMMINGS AND FITTINGS SHALL BE CONSTRUCT OF FORGED, CAST, ROLLED OR EXTRUDED BRASS OR BRONZE WITH MONEL AND OTHER SUITABLE NON-CORROSIVE PARTS. DESIGNED WITH EASILY RENEWABLE PARTS THAT ARE SUBJECT TO WEAR OR DETERIORATION. NO DIE CASTINGS AND STAMPINGS OTHER THAN BRASS OR STAINLESS STEEL. PROVIDE PLUMBING FIXTURES AND TRIM WITH ALL NECESSARY TRIM, DEVICES AND ACCESSORIES REQUIRED FOR PROPER OPERATIONS SPECIFICALLY NOTED OR NOT

ESCUTCHEONS SHALL BE ONE-PIECE CHROME PLATED CAST BRASS OR STAINLESS STEEL.

P-TRAPS SHALL BE ONE PIECE CHROME PLATED CAST BRASS WITH CLEANOUT PLUG.

EXAMINE ROUGHING-IN WORK OF POTABLE WATER AND WASTE PIPING SYSTEMS TO VERIFY ACTUAL LOCATIONS OF PIPING CONNECTIONS PRIOR TO INSTALLING FIXTURES. CORRECT ANY INCORRECT LOCATION OF PIPING, AND OTHER UNSATISFACTORY CONDITIONS FOR INSTALLATION OF PLUMBING FIXTURES. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO THE ENGINEER. ALL ROUGH-IN TO PLUMBING FIXTURES SHALL CONFORM TO FIXTURE MANUFACTURER PUBLISHED ROUGH-IN DIMENSIONS, AND REQUIREMENTS.

UPON COMPLETION OF INSTALLATION OF PLUMBING FIXTURES AND AFTER UNITS ARE WATER PRESSURIZED, TEST FIXTURES TO DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS. CORRECT MALFUNCTIONING UNITS AT SITE, THEN RETEST TO DEMONSTRATE COMPLIANCE; OTHERWISE, REMOVE AND REPLACE WITH NEW UNITS AND PROCEED WITH RETESTING.

CLEAN PLUMBING FIXTURES, TRIM, AND STRAINERS OF DIRT AND DEBRIS UPON COMPLETION OF INSTALLATION.

ADJUST WATER PRESSURE AT DRINKING FOUNTAINS, FAUCETS, SHOWER VALVES, AND FLUSH VALVES TO PROVIDE PROPER FLOW STREAM AND SPECIFIED GPM.

SET FIXTURES LEVEL AND UNIFORMLY, WITH CONNECTIONS AT RIGHT ANGLES TO WALL AND PROPERLY CENTERED. LAY OUT ROUGHING ACCURATELY AND IN COORDINATION WITH SPACE AND FINISH REQUIREMENTS.

LOCATE WASTE OUTLETS AND WATER SUPPLIES AT CONSTANT HORIZONTAL LEVELS, WITH WASTE OUTLET CENTERED ON FIXTURE DRAIN CONNECTION AND WATER SUPPLIES SPACED EQUALLY TO RIGHT AND LEFT.

DRAINS AND CLEANOUTS

PROVIDE ALL POURED IN PLACE DRAINS AND CLEANOUTS WITH 24" X 24" FLASHING.

PROVIDE A MANUFACTURED BRONZE OUTLET FITTING FOR ALL SECONDARY ROOF DRAIN OUTLETS.

INSTALL EXTERIOR CLEANOUTS WITH A 18" SQUARE X 6" THICK CONCRETE APRON.

CLEANOUT PLUGS SHALL BE BRASS OR PLASTIC, OR OTHER APPROVED MATERIALS. BRASS CLEANOUT PLUGS SHALL BE UTILIZED WITH METALLIC DRAIN, WASTE AND VENT PIPING ONLY, AND SHALL CONFORM TO ASTM A 74, ASME A112.3.1 OR ASME A112.36.2M. CLEANOUTS WITH PLATE-STYLE ACCESS COVERS SHALL BE FITTED WITH CORROSION-RESISTING FASTENERS. PLUGS SHALL HAVE RAISED SQUARE OR COUNTERSUNK SQUARE HEADS. COUNTERSUNK HEADS SHALL BE INSTALLED WHERE RAISED HEADS ARE A TRIP HAZARD. CLEANOUT PLUGS WITH BOROSILICATE GLASS SYSTEMS SHALL BE OF BOROSILICATE GLASS.

CLEANOUTS SHALL BE LOCATED AT MINIMUM INTERVALS OF 50 FEET FOR PIPING NPS 4 AND SMALLER AND 100 FEET FOR LARGER PIPING.

BUILDING SEWERS SHALL BE PROVIDED WITH CLEANOUTS LOCATED NOT MORE THAN 100 FEET APART MEASURED FROM THE UPSTREAM ENTRANCE OF THE CLEANOUT. FOR BUILDING SEWERS 8 INCHES AND LARGER, MANHOLES SHALL BE PROVIDED AND LOCATED NOT MORE THAN 200 FEET FROM THE JUNCTION OF THE BUILDING DRAIN AND BUILDING SEWER, AT EACH CHANGE IN DIRECTION AND AT INTERVALS OF NOT MORE THAN 400 FEET APART. MANHOLES AND MANHOLE COVERS SHALL BE OF AN APPROVED TYPE.

CLEANOUTS SHALL BE INSTALLED AT EACH CHANGE OF DIRECTION OF THE BUILDING DRAIN OR HORIZONTAL WASTE OR SOIL LINES GREATER THAN 45 DEGREES (INCLUDING P-TRAPS). WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A RUN OF PIPING, ONLY ONE CLEANOUT SHALL BE REQUIRED FOR EACH 40 FEET OF DEVELOPED LENGTH OF THE DRAINAGE PIPING.

A CLEANOUT SHALL BE PROVIDED AT THE BASE OF EACH WASTE OR SOIL STACK.

CONCEALED PIPING. CLEANOUTS ON CONCEALED PIPING OR PIPING UNDER A FLOOR SLAB OR IN A CRAWL SPACE OF LESS THAN 24 INCHES IN HEIGHT OR A PLENUM SHALL BE EXTENDED THROUGH AND TERMINATE FLUSH WITH THE FINISHED WALL, FLOOR OR GROUND SURFACE OR SHALL BE EXTENDED TO THE OUTSIDE OF THE BUILDING. CLEANOUT PLUGS SHALL NOT BE COVERED WITH CEMENT, PLASTER OR ANY OTHER PERMANENT FINISH MATERIAL. WHERE IT IS NECESSARY TO CONCEAL A CLEANOUT OR TO TERMINATE A CLEANOUT IN AN AREA SUBJECT TO VEHICULAR TRAFFIC, THE COVERING PLATE, ACCESS DOOR OR CLEANOUT SHALL BE OF AN APPROVED TYPE DESIGNED AND INSTALLED FOR THIS PURPOSE.

MINIMUM SIZE. CLEANOUTS SHALL BE THE SAME NOMINAL SIZE AS THE PIPE THEY SERVE UP TO 4 INCHES. FOR PIPES LARGER THAN 4 INCHES NOMINAL SIZE, THE MINIMUM SIZE OF THE CLEANOUT SHALL BE 4 INCHES.

CAST-IRON CLEANOUT SIZING SHALL BE IN ACCORDANCE WITH ASTM A 74 FOR HUB AND SPIGOT FITTINGS OR ASTM A 888 OR CISPI 301 FOR HUBLESS FITTINGS.

ACCESS SHALL BE PROVIDED TO ALL CLEANOUTS.

MISCELLANEOUS SPECIALTIES

PROVIDE AND INSTALL ACCESS DOORS FOR EACH VALVE, CLEANOUT OR PLUMBING DEVICE REQUIRING ACCESS. ACCESS DOORS SHALL BE RIGID CONSTRUCTION WITH TWO HINGES AND A LATCH. IN PLENUM CEILINGS, PROVIDE FELT BETWEEN THE DOOR AND FRAME TO MAKE AN AIR TIGHT SEAL. ACCESS DOORS SHALL BE RATED TO THE SAME OR GREATER RATING OF THE PARTITION IN WHICH THEY ARE INSTALLED. ACCESS DOORS SHALL BE FLUSH MOUNTED, PRIME COATED WITH RUST INHIBITIVE PAINT, CONCEALED FRAME, FLUSH SCREW DRIVER OPERATED LOCKS WITH METAL CAMS AND ANCHORS AS REQUIRED.

ACCESS DOOR SIZES SHALL BE:
12" X 12" AT EASILY ACCESSIBLE ITEMS
16" X 16" WHERE PARTIAL BODY ACCESS IS REQUIRED
24" X 24" WHERE FULL BODY ACCESS IS REQUIRED

PROVIDE AND INSTALL DRIP PANS WITH WATER DETECTOR AND DRAIN FOR PIPING REQUIRED BY ACTUAL FIELD CONDITIONS WHERE PIPING PASSES OVER INCLUDING AREA WITHIN 3'-0" OF ELECTRICAL EQUIPMENT.

DO NOT INSTALL AIR GAP BACKFLOW PREVENTERS IN CONCEALED SPACES OR IN AREAS WHERE SPLASHING WATER WILL DAMAGE FINISHES. PROVIDE AND INSTALL AN OVERSIZED COPPER FUNNEL WITH AIR GAP DIRECTLY BELOW RPD PRESSURE RELIEF PORT. PIPE FUNNEL TO SPILL AS AN INDIRECT WASTE TO AN APPROVED DRAIN LOCATION.

INSTALL ELECTRONIC TRAP PRIMERS SERVING ALL DRAINS. INSTALL ALL TRAP PRIMER VALVES IN AN ACCESSIBLE LOCATION. PROVIDE AND INSTALL ACCESS PANELS AND DOORS WHERE REQUIRED TO GAIN ACCESS IN CONCEALED CONSTRUCTION.

PIPING GENERAL

NO PIPING SHALL BE COVERED UNTIL TESTED APPROVED BY THE AUTHORITIES HAVING JURISDICTION.

ALL PIPING SHALL BE RUN PERPENDICULAR AND/OR PARALLEL TO FLOORS, INTERIOR WALLS, ETC. PIPING AND VALVES SHALL BE GROUPED NEATLY AND SHALL BE RUN AS TO MAXIMIZE HEADROOM OR PASSAGE CLEARANCE. ALL VALVES, CONTROLS AND ACCESSORIES CONCEALED IN FURRED SPACES AND REQUIRING ACCESS FOR OPERATION AND MAINTENANCE SHALL BE ARRANGED TO ASSURE THE USE OF A MINIMUM NUMBER OF ACCESS DOORS.

ALL PIPE LINES MADE WITH SCREWED FITTINGS MUST BE PROVIDED WITH A SUFFICIENT NUMBER OF FLANGES AND/OR UNIONS TO ALLOW FOR EASY AND CONVENIENT DISMANTLING OF THE SYSTEM WITHOUT BREAKING FITTINGS.

ALL PIPING SHALL RUN CONCEALED IN FURRED SPACES OF OCCUPIED AREAS OR CHASES. CONTRACTOR SHALL OBTAIN PERMISSION TO RUN ANY EXPOSED PIPES.

CAP ALL PIPE AND EQUIPMENT OUTLETS DURING CONSTRUCTION AND KEEP LINES AND INSIDE OF EQUIPMENT FREE OF FOREIGN MATERIALS.

PROVIDE FOR EXPANSION WITHOUT WARPING OR DISLOCATING LINES OR STRAINING CONNECTED EQUIPMENT. INSTALL PIPING TO CLEAR BUILDING CONSTRUCTION AND TO AVOID INTERFERENCE WITH OTHER WORK. THE CONTRACTOR SHALL PROVIDE AND INSTALL COMPLETE PIPING EXPANSION SYSTEM (INCLUDING SEISMIC JOINT EXPANSION) AND DEVICES AS REQUIRED FOR PROPER EXPANSION COMPENSATION STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT.

THE DRAWINGS INDICATE SCHEMATICALLY THE SIZE AND LOCATION OF PIPING. PIPING SHALL BE SET UP AND DOWN AND OFFSET AS REQUIRED TO MEET CONSTRUCTION CONDITIONS.

THIS CONTRACTOR SHALL INFORM HIMSELF FROM THE GENERAL CONSTRUCTION SPECIFICATIONS AND PLANS, OF THE EXACT DIMENSION OF FINISHED WORK AND OF THE HEIGHT OF FINISHED CEILINGS IN ALL ROOMS WHERE EQUIPMENT OR PIPES ARE TO BE PLACED AND ARRANGE HIS WORK IN ACCORDANCE WITH THE SCHEDULE OF INTERIOR FINISHES, AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

WATER PIPING SHALL BE RUN FREE OF TRAPS AND UNNECESSARY BENDS. ANY TRAPS FORMED SHALL BE PROVIDED WITH HOSE END DRAIN VALVES WITH THREADED CAP AND CHAIN TO COMPLETELY DRAIN THE SYSTEM.

PROVIDE SECTION CUT-OFF VALVES ON ALL MAINS AND BRANCHES. PITCH AND VALVE ALL WATER PIPING FOR CONVENIENT DRAINAGE.

WHEREVER DISSIMILAR METALS ARE JOINED TOGETHER AN APPROVED DIELECTRIC FITTING SHALL BE USED. THE DIELECTRIC FITTING SHALL BE A LISTED ASSEMBLY.

RUN ALL SOIL, WASTE AND VENT PIPING SHOWN OR REQUIRED BY LOCAL CODES. PIPING SHOWN IS MINIMUM AND IN ACCORDANCE WITH STATE AND FEDERAL CODES. IF LOCAL CODES REQUIRE ADDITIONAL VENTING OR LARGER SIZES, PROVIDE AS REQUIRED.

MAKE ALL CONNECTIONS THROUGH TRAPS. EACH TRAP TO BE VENTED, EITHER BY CIRCUIT, LOOP, OR INDIVIDUAL VENT, AS REQUIRED, BUT NOT LESS THAN SHOWN, OR AS REQUIRED BY LOCAL CODE.

SET AND PROPERLY CONNECT ALL FIXTURES WITH HOT AND COLD WATER, VENT AND DRAINAGE PIPING, AS REQUIRED AND PROTECT FIXTURES UNTIL ACCEPTANCE AND TEST. CLEAN ALL FLUSH VALVES AFTER TWO WEEKS OF OPERATION.

GENERAL DEMOLITION NOTES

1. ALL EQUIPMENT, FIXTURES, PIPING ETC, TO BE REMOVED SHALL BE DISPOSED OF, TURNED OVER TO THE OWNER, OR SALVAGED AS DIRECTED BY THE OWNER. EQUIPMENT, FIXTURES, PIPING, DEVICES, ETC. SHALL NOT BE REMOVED FROM THE PREMISES WITH OUT THE OWNER'S APPROVAL.
2. ALL ABANDONED PIPING TO REMAIN SHALL BE PROPERLY PLUGGED, VALVED, CAPPED AND/OR BY PASSED SUCH THAT UPON COMPLETION OF WORK ALL ABANDONED SYSTEMS ARE PROPERLY CONCEALED, AND THAT EXISTING SYSTEMS TO REMAIN, REMAIN OPERATIONAL.
3. NO DEAD ENDS SHALL BE LEFT ON ANY PIPING SYSTEMS UPON COMPLETION OF WORK.
4. EXISTING EXPOSED PIPING SYSTEMS NOT TO BE REUSED, AND NOT SPECIFICALLY NOTED FOR REMOVAL SHALL BE COMPLETELY REMOVED. CONTRACTOR SHALL VERIFY PRIOR TO REMOVAL.
5. ALL SYSTEMS SHALL BE LEFT IN PERFECT WORKING ORDER UPON COMPLETION OF ALL NEW WORK.
6. ALL EXISTING EXPOSED, UNNECESSARY PIPING RELATED TO NEW WORK SHALL BE COMPLETELY REMOVED.
7. REROUTE OR REMOVE ALL EXISTING PIPING, AND SYSTEMS WHERE NECESSARY TO AVOID NEW EQUIPMENT, STRUCTURAL, OR MASONRY WORK AS REQUIRED BY THE PROPOSED ALTERATIONS.
8. COORDINATE PLUMBING SERVICES SHUT DOWNS (H&CW, GAS, WASTE, VENT & STORM SYSTEMS) WITH THE BUILDING MANAGER AND UTILITY COMPANY.

PLUMBING LEGEND

SYMBOL OR ABBREVIATION	DESCRIPTION
	EXISTING PIPE/EQUIPMENT TO REMAIN
—X—X—X—X—X—X—	EXISTING PIPE/EQUIPMENT TO BE REMOVED
S	SANITARY PIPING ABOVE FINISHED FLOOR/SLAB (S, SAN.)
W	WASTE PIPING ABOVE FINISHED FLOOR/SLAB (W)
S	SANITARY PIPING UNDER FINISHED FLOOR/SLAB (S, SAN.)
W	WASTE PIPING UNDER FINISHED FLOOR/SLAB (W)
V	VENT PIPING (V)
CW	DOMESTIC COLD WATER PIPING (CW)
HW	DOMESTIC HOT WATER PIPING (HW)
HWC	DOMESTIC HOT WATER RECIRC. PIPING (HWC)
	PIPE DROP/DOWN (DN)
	PIPE RISE/UP
	BALL VALVE
	BALANCING VALVE
	CLEANOUT (CO), WALLPLATE CLEANOUT (WPCO)
	DECKPLATE CLEANOUT (DPCO)
	FREEZE PROOF HOSE BIBB (FPHB)
	CONNECT TO EXISTING

C.I.	CAST IRON	M!	MOP SINK
BLDG.	BUILDING	S#	SINK - TYPE
CONN.	CONNECT	STK.	STACK
DR.	DRAIN	TP	TRAP PRIMER
EXIST.	EXISTING	TYP.	TYPICAL
D#	FLOOR DRAIN - TYPE	V.I.F.	VERIFY IN FIELD
GALV.	GALVANIZED	V.T.R.	VENT THROUGH ROOF
L#	LAVATORY - TYPE	W#	WATER CLOSET - TYPE

NUMBER / SHEET — DETAIL DESIGNATION SYMBOL

PLUMBING DRAWING LIST

DRAWING NUMBER	DRAWING DESCRIPTION
P-001	COVER SHEET - PLUMBING
PD-102	PARTIAL SECOND FLOOR DEMO PLAN - PLUMBING
P-102	PARTIAL SECOND FLOOR PLAN - PLUMBING
P-201	DETAILS - PLUMBING
P-301	SCHEDULES - PLUMBING
P-302	SCHEDULES - PLUMBING
P-401	SPECIFICATIONS - PLUMBING

Central Connecticut State University
1615 Stanley Street
New Britain, CT 06050

OakPark Architects LLC
312 Park Rd, W. Hartford, CT (860)232-6664

KOHLER RONAN, LLC CONSULTING ENGINEERS
93 Lake Avenue, Danbury, CT 06810
203.778.1017 F 203.778.1018
171 Madison Avenue,
New York, NY 10016
212.695.2422 F 212.695.2423
www.kohlerronan.com
E-mail krce@kohlerronan.com

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NUMBER	DATE	DESCRIPTION

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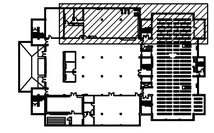

KEY PLAN
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CCSU PROJECT No.:	22-87
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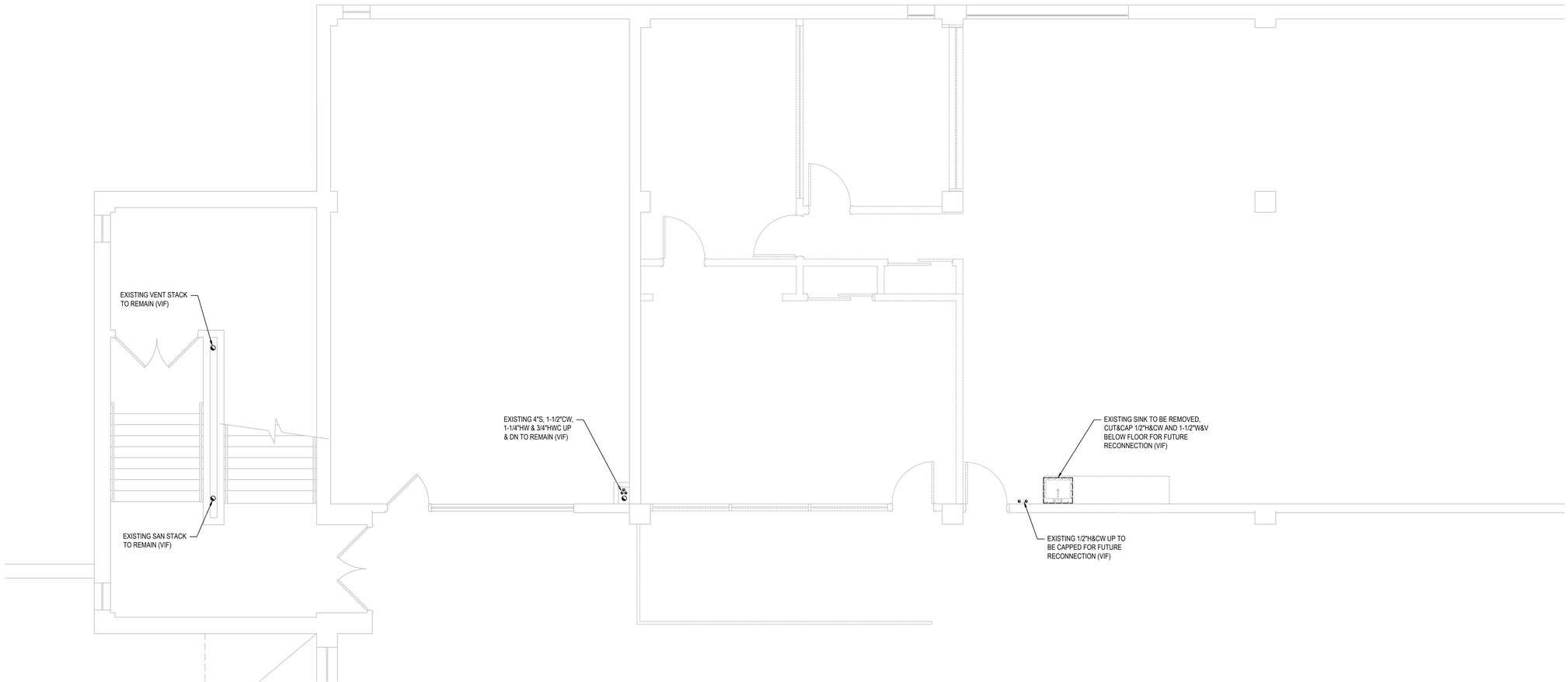
COVER SHEET - PLUMBING

BUILDING No.:	DRAWING No.:
22	P-001



1 / PD-102 PARTIAL SECOND FLOOR DEMOLITION PLAN
SCALE: 1/4" - 1'-0"

Central Connecticut State University

1615 Stanley Street
New Britain, CT 06050

REVISIONS

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OakPark Architects LLC
312 Park Rd, W. Hartford, CT (860)232-6664

KOHLER RONAN, LLC
CONSULTING ENGINEERS
93 Lake Avenue, Danbury, CT 06810
203.778.1017 F 203.778.1018
171 Madison Avenue,
New York, NY 10016
212.695.2422 F 212.695.2423
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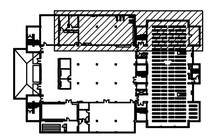

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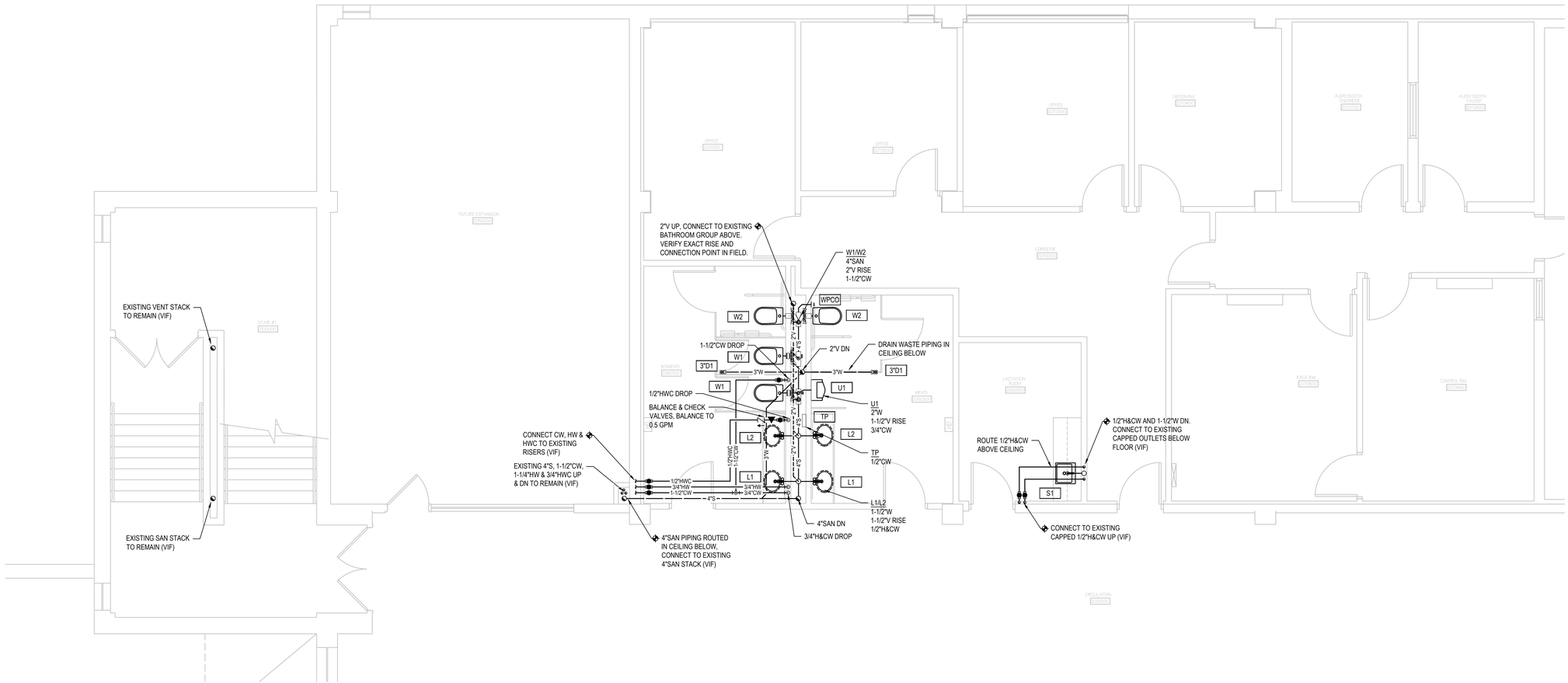
PARTIAL SECOND FLOOR DEMO PLAN-PLUMBING

BUILDING No.:	DRAWING No.:
22	PD-102



1 P-102 PARTIAL SECOND FLOOR PLAN

SCALE: 1/4" - 1'-0"

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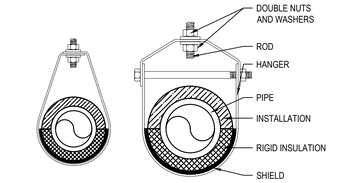
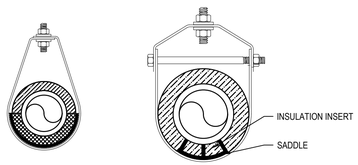
PARTIAL SECOND FLOOR PLAN - PLUMBING

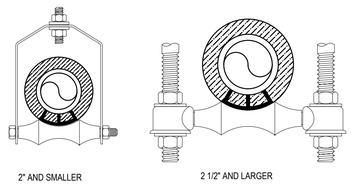
BUILDING No.:	DRAWING No.:
22	P-102



FLUIDS LESS THAN 100°F



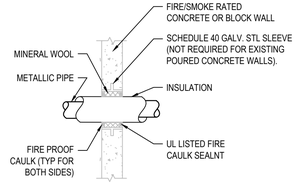
FLUIDS GREATER THAN 100°F



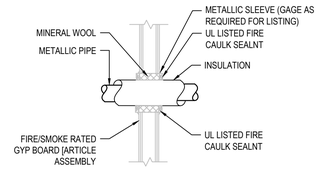
FLUIDS 150°F-250°F 50' FROM ANCHOR
FLUIDS GREATER THAN 250°F 30' FROM ANCHOR

HANGER SCHEDULE		
PIPE SIZE	ROD SIZE	MAX. SPACING
UP TO 1 1/4"	3/8" DIA.	8' STEEL
UP TO 1 1/4"	3/8" DIA.	6' COPPER & BRASS
1 1/2" & 2"	3/8" DIA.	10'

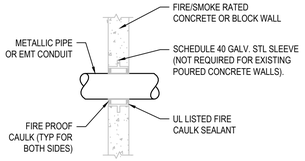
1 PIPE HANGER DETAIL
P-201 SCALE: N.T.S.



INSULATED PIPE



INSULATED/NON INSULATED PIPE



NON INSULATED PIPE/ CONDUIT

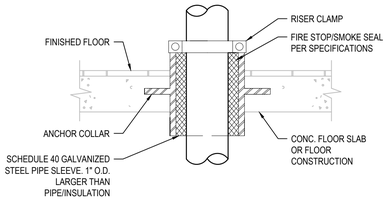
GENERAL NOTES:

PROVIDE UL LISTED, FM APPROVED FIRE/SMOKE PENETRATION ASSEMBLY IN ACCORDANCE W/ UL1479, ASTM E814 REQUIREMENTS FOR WALL TYPE, RATING, PIPE SIZE AND INSULATION THICKNESS INSTALLED.

FIRE STOPPING SHALL HAVE A RATING EQUAL TO OR GREATER THAN THE WALL BEING PENETRATED - SEE SPECIFICATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL RATING AND LOCATIONS

PLASTIC PIPING: PROVIDE UL LISTED, FM APPROVED FIRE/SMOKE ASSEMBLY LISTED FOR PLASTIC PIPE IN ACCORDANCE W/ MANUFACTURER'S REQUIREMENTS.

2 PIPE PENETRATION WITH FIRE/SMOKE SEAL
P-201 SCALE: N.T.S.



3 PIPE PENETRATION DETAIL
P-201 SCALE: N.T.S.

4 PIPING SCHEMATIC @ PLUMBING CHASE
P-201 SCALE: N.T.S.

5 WALL CLEANOUT DETAIL
P-201 SCALE: N.T.S.

6 POINT OF USE THERMOSTATIC MIXING VALVE
P-201 SCALE: N.T.S.

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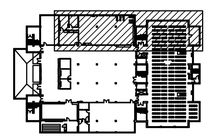

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DETAILS - PLUMBING

BUILDING No.:	DRAWING No.:
22	P-201

PIPE AND FITTING SCHEDULE

DESCRIPTION	SIZE	PIPE		FITTING		REMARKS
		TYPE	SCHEDULE	TYPE	RATING	
SOIL, WASTE AND VENT ABOVE GROUND	ALL	CI - NH	SV	CI	SV	-
DOMESTIC COLD WATER WITHIN BUILDING	2-1/2" AND BELOW	COPPER	TYPE L	CUS	STD	HARD TEMPERED PRO-PRESS IS ACCEPTABLE ALTERNATIVE
DOMESTIC HOT WATER PIPING	2-1/2" AND BELOW	COPPER	TYPE L	CUS	STD	HARD TEMPERED PRO-PRESS IS ACCEPTABLE ALTERNATIVE
DOMESTIC HOT WATER RECIRCULATION PIPING	ALL	COPPER	TYPE L	CUS	STD	HARD TEMPERED PRO-PRESS IS ACCEPTABLE ALTERNATIVE
INDIRECT WASTE AND CONDENSATE PIPING	ALL	COPPER	TYPE L	CUS	STD	HARD TEMPERED
TRAP PRIMER PIPING	ALL	PEX				NO JOINTS ALLOWED BELOW SLAB

ABBREVIATIONS	
ABB.	DESCRIPTION
CI	CAST IRON
CUS	WROUGHT COPPER SOLDER (95/5)
NH	NO HUB W/SUPER DUTY 4-BAND HUSKY CLAMP
PEX	PEX PIPING
STD	STANDARD
SV	SERVICE WEIGHT

VALVE SCHEDULE

DESCRIPTION	SIZE	TYPE							REMARKS
		GATE	GLOBE	CHECK	BALL	PLUG	BALAN.	CLASS	
DOMESTIC COLD WATER	2" AND SMALLER	GVT	GLVT	CVT	BVT	--	--	125 PSI	--
DOMESTIC HOT WATER	2" AND SMALLER	GVT	GLVT	CVT	BVT	--	CBV	125 PSI	--
PRODUCTS INCLUDED IN THIS SECTION SHALL BE "LEAD FREE" IN ACCORDANCE WITH THE REQUIREMENTS OF THE "REDUCTION OF LEAD IN DRINKING WATER ACT".									

ABBREVIATIONS	
ABB.	DESCRIPTION
BVT	BALL VALVE THREADED - 2-PIECE, FULL PORT, 400PSI, BRONZE
CBV	CALIBRATED BALANCING VALVE, BRONZE
CVT	CHECK VALVE THREADED - BRONZE
GVT	GATE VALVE THREADED - BRONZE
GLVT	GLOBE VALVE THREADED - BRONZE

INSULATION SCHEDULE

SYSTEM	PIPE SIZE	PIPE INSULATION TYPE	PIPE INSULATION THICKNESS	FITTINGS, VALVES, FLANGES - INSULATION TYPE	REMARKS
DOMESTIC COLD WATER	ALL	MINERAL FIBER, ASJ, SSL	1"	MOLDED, PRE-FORMED MINERAL FIBER PVC JACKET	TYPE I
DOMESTIC HOT WATER	ALL	MINERAL FIBER, ASJ, SSL	1"	MOLDED, PRE-FORMED MINERAL FIBER PVC JACKET	TYPE I
CONDENSATE DRAINS	ALL	MINERAL FIBER, ASJ, SSL	1"	MOLDED, PRE-FORMED MINERAL FIBER PVC JACKET	TYPE I

1. FIBERGLASS INSULATION: THERMAL CONDUCTIVITY .22 TO .28 BTU x IN./H x FT x °F W/ 100°F MEAN TEMP. THICKNESS BASED ON ASHRAE 90.1, 2007, TABLE 6.8.3
2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
3. ALL EXPOSED INDOOR PIPING/TUBING AND FITTINGS WITHIN OCCUPIED SPACES, CORRIDORS, MECHANICAL ROOMS AND OTHER NON-CONCEALED LOCATIONS SHALL BE FITTED WITH PVC FITTING COVERS AND PVC PIPE COVERS FROM THE FLOOR LEVEL TO 12' ABOVE THE FINISHED FLOORS, PLATFORMS, AND MEZZANINES. PVC FITTING AND PIPE COVERS SHALL BE 25/50 FLAME AND SMOKE SPREAD RATED. COVERS AND JACKETING COLOR TO BE SELECTED BY ARCHITECT. PROVIDE TEMPLATE OF JACKET COLORS FOR THE ARCHITECT'S REVIEW.
4. ALL ELBOWS; CONCEALED OR EXPOSED, SHALL BE INSULATED WITH PRE-MOLDED, FACTORY FORMED FIBROUS GLASS WITH 3.5 PCF MINIMUM DENSITY AS MANUFACTURED BY HAMFAB OR APPROVED EQUAL. ALL ELBOWS; CONCEALED OR EXPOSED, SHALL BE COVERED WITH PVC FITTING COVERS. PVC FITTING COVERS SHALL BE 25/50 FLAME AND SMOKE SPREAD RATED. COVER COLOR TO BE SELECTED BY ARCHITECT. PROVIDE TEMPLATE OF JACKET COLORS FOR THE ARCHITECT'S REVIEW.
5. DIAPER AND LOOSE FILL STYLE INSULATION ON PIPE FITTINGS IS NOT ACCEPTABLE. ELBOWS WITHOUT PVC COVERS ARE NOT ACCEPTABLE.
6. ALL OUTDOOR PIPING/TUBING SHALL BE FITTED WITH A PRE-MANUFACTURED ALUMINUM JACKET PRODUCT. 0.024" ALUMINUM JACKET LOCK-ON OR SLIP-ON TYPE JACKETING TO BE COVERED WITH ACRYLIC COATING ON THE OUTER SURFACE AND A BAKED EPOXY MOISTURE BARRIER ON THE INNER SURFACE. MANUFACTURER SHALL BE SIMILAR TO CHILDERS PRODUCTS, DIVISION OF ITW; METAL JACKETING SYSTEMS. ALL EXPOSED JOINTS IN THE JACKET PRODUCT SHALL BE INSTALLED IN SUCH A WAY AS TO PREVENT THE INFILTRATION OF MOISTURE AND WATER.
7. ALL BURIED PIPING/TUBING SHALL A PRE-MANUFACTURED PIPE/INSULATION SYSTEM. REFER TO SPECIFICATIONS FOR REQUIREMENTS.

PLUMBING CLEANOUT SCHEDULE

TAG	TYPE	MANUFACTURER & MODEL NUMBER	DESCRIPTION	GENERAL CLEANOUT NOTES
DPCO	FLOOR CLEANOUT	JOSAM 55000-1-SD-22-I-1-VP SMITH 4100-NB-FC SERIES WATTS CO-200-RX-C-6 ZURN ZN-1400-HD-KC SERIES	ALL INTERIOR AREAS (EXCEPT CARPETED AREAS) ADJUSTABLE ROUND SCORIATED HEAVY DUTY NICKEL BRONZE SECURED TOP WITH FRAME, CAST IRON BODY, FLASHING FLANGE AND CLAMP, BRONZE PLUG. PROVIDE WITH VANDAL PROOF SCREWS. PROVIDE NICKEL BRONZE FRAME IN WET AREAS.	• INSTALL EXTERIOR CLEANOUTS WITH A 18" SQUARE X 6" THICK CONCRETE APRON. • CLEANOUTS SHALL BE LOCATED AT MINIMUM INTERVALS OF 50 FEET FOR PIPING NPS 4 AND SMALLER AND 100 FEET FOR LARGER PIPING. • BUILDING SEWERS SHALL BE PROVIDED WITH CLEANOUTS LOCATED NOT MORE THAN 100 FEET APART MEASURED FROM THE UPSTREAM ENTRANCE OF THE CLEANOUT. • CLEANOUTS SHALL BE INSTALLED AT EACH CHANGE OF DIRECTION OF THE BUILDING DRAIN OR HORIZONTAL WASTE OR SOIL LINES GREATER THAN 45 DEGREES (INCLUDING P-TRAPS). WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A RUN OF PIPING, ONLY ONE CLEANOUT SHALL BE REQUIRED FOR EACH 40 FEET OF DEVELOPED LENGTH OF THE DRAINAGE PIPING. • A CLEANOUT SHALL BE PROVIDED AT THE BASE OF EACH WASTE OR SOIL STACK. • THERE SHALL BE A CLEANOUT NEAR THE JUNCTION OF THE BUILDING DRAIN AND THE BUILDING SEWER. THE CLEANOUT SHALL BE EITHER INSIDE OR OUTSIDE THE BUILDING WALL AND SHALL BE BROUGHT UP TO THE FINISHED GROUND LEVEL OR TO THE ASSOCIATED FLOOR LEVEL. • MINIMUM SIZE. CLEANOUTS SHALL BE THE SAME NOMINAL SIZE AS THE PIPE THEY SERVE UP TO 4 INCHES. FOR PIPES LARGER THAN 4 INCHES NOMINAL SIZE, THE MINIMUM SIZE OF THE CLEANOUT SHALL BE 4 INCHES. • CLEARANCES: CLEANOUTS ON 6-INCH AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN18 INCHES FOR RODDING. CLEANOUTS ON 8-INCH AND LARGER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 36 INCHES FOR RODDING. • PROVIDE CLEANOUT ON ALL HORIZONTAL RUNS GREATER THAN 3 FEET. FLOOR DRAINS, ROOF DRAINS AND FLOOR SINKS ARE NOT CONSIDERED AN ACCEPTABLE CLEANOUT.
DPCO	FLOOR CLEANOUT	JOSAM 55000-1-SD-14-22-41-VP SMITH 4100-NB-FC-Y SERIES WATTS CO-200-RC-6 ZURN ZN-1400-HD-KC-CM SERIES	CARPETED AREAS, ADJUSTABLE ROUND SCORIATED HEAVY DUTY NICKEL BRONZE SECURED TOP WITH FRAME, CARPET MARKER, CAST IRON BODY, FLASHING FLANGE AND CLAMP, BRONZE PLUG, PROVIDE WITH VANDAL PROOF SCREWS	
WPCO	WALL PLATE CLEANOUT COVER	JOSAM 58640-VP SMITH 4730-NB-U SERIES WATTS CO-300-ST-6 ZURN ZANB-1460-VP SERIES	PROVIDE AT CAST IRON CLEANOUTS WITH TAPERED BRONZE PLUG A 6" X 6" (OR 7" X 7") POLISHED NICKEL BRONZE SQUARE FRAME AND COVER SECURED WITH VANDAL PROOF SCREWS.	

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SCHEDULES - PLUMBING

BUILDING No.:	DRAWING No.:
22	P-301

PLUMBING FIXTURE SCHEDULE

FIXTURE TAG	FIXTURE TYPE	FIXTURE MANUFACTURER MODEL, MODEL NO.	MATERIAL	DESCRIPTION	MINIMUM BRANCH SIZES						REMARKS
					SUPPLY SIZE	TRAP SIZE	WASTE/ SANITARY	VENT	COLD WATER	HOT WATER	
W1 W2 (A.D.A.)	WATER CLOSET WALL HUNG FLUSH VALVE	WATER CLOSET: TOTO CT708E SERIES FLUSH VALVE: TOTO ECOPOWER TET3LN31#SS SEAT: TOTO SC534	VITREOUS CHINA COLOR: AS SELECTED BY ARCHITECT	STANDARD AND A.D.A. COMPLIANT, 1.28 GPF HIGH EFFICIENCY, ELONGATED RIM, SIPHON JET, WITH 1-1/2" TOP SPUD. SEAT: HEAVY DUTY SOLID PLASTIC ELONGATED OPEN FRONT.	1"	--	4"	2"	1-1/2"	--	--
U1 (A.D.A.)	URINAL WALL MOUNTED FLUSH VALVE	URINAL: TOTO UT447E FLUSH VALVE: TEU3UN11#SS	VITREOUS CHINA COLOR: WHITE	STANDARD & A.D.A. COMPLIANT, 1/8 GALLONS PER FLUSH, WALL HANGER, 3/4" I.P.S. TOP SPUD INLET, 2" I.P.S. SPUD OUTLET FLANGE AND RUBBER GASKET.	3/4"	--	2"	1-1/2"	1"	--	--
L1 L2 (A.D.A.)	LAVATORY COUNTER MOUNTED	LAVATORY: TOTO LT501.4 FAUCET: TOTO ECOPOWER TEL5GS10#CP INSULATION KIT: TRUEBRO INSULATION KIT MCGUIRE PRO WRAP	VITREOUS CHINA COLOR: AS SELECTED BY ARCHITECT	STANDARD & A.D.A. COMPLIANT, 20" X 17" OVAL, SELF-RIMMING, 1-1/2" CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT PLUG, CHROME PLATED BRASS ANGLE STOPS WITH LOOSE KEY OPERATOR, AND GRID DRAIN. SENSOR FAUCET: SELF-GENERATING ECOPPOWER SYSTEM, CHROME HIGH ARCH GOOSENECK SPOUT, THERMOSTATIC MIXING VALVE	3/8"	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	INSULATE TRAP & WATER PIPING BELOW LAVATORY WITH INSULATION KIT. MAXIMUM WATER CONSUMPTION REQUIREMENT: 0.17 GAL/CYCLE
S1	HAND SINK	SINK: JUST MFG. SLF-1815-A-GR SERIES STRAINER: JUST. MFG. J-35 FAUCET: MOEN 8248SMF15 INSULATION KIT: TRUEBRO INSULATION MCGUIRE PRO WRAP	18 GAUGE TYPE 304 STAINLESS STEEL	LEDGE TYPE, SINGLE COMPARTMENT 18" X 15" X 7-1/2" DEEP, WITH 3 HOLE REAR DECK, GRID DRAIN, 1-1/2" CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT PLUG, CHROME PLATED BRASS ANGLE STOPS WITH LOOSE KEY OPERATOR. CHROME PLATED BRASS GOOSENECK, 8" WIDESPREAD FAUCET, 4" WRIST BLADE HANDLES.	1/2"	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	MAXIMUM WATER CONSUMPTION REQUIREMENT: 1.5 GPM
TP	ELECTRONIC TRAP PRIMER	PRECISION PLUMBING PRODUCTS MPB-500 SERIES PROVIDE WITH CABINET & ACCESS DOOR BASED ON WALL CONDITIONS. COORDINATE ACCESS PANEL FINISH & LOCATION WITH ARCHITECT. (REFER TO PIPE & FITTING SCHEDULE FOR MATERIALS)		ELECTRONIC TRAP PRIMER ASSEMBLY: CONSISTING OF CIRCUIT BREAKER (MINIMUM 2 AMP), SWITCH, TIMER SOLENOID VALVE, 115V, MOUNT PER MANUFACTURER'S REQUIREMENTS & RECOMMENDATIONS, COORDINATE NUMBER OF OUTLETS AS REQUIRED BY QUANTITY OF DRAINS SERVED (1 - 4).	--	--	--	--	--	--	NOTE: RECESSED OR SURFACE MOUNTED CABINET TYPE BASED ON WALL CONDITIONS. CONTRACTOR TO COORDINATE WITH ARCHITECT. INCLUDE ACCESS DOORS/PANELS.

REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF A.D.A. FIXTURES

PLUMBING DRAIN SCHEDULE

FIXTURE TAG	FIXTURE TYPE	FIXTURE MANUFACTURER MODEL, MODEL NO.	MATERIAL	DESCRIPTION	MINIMUM BRANCH SIZES						REMARKS
					SUPPLY SIZE	TRAP SIZE	WASTE/ SANITARY	VENT	COLD WATER	HOT WATER	
D1	6" SQUARE FLOOR DRAIN TOILET ROOMS	JOSAM 30000-S SERIES MIFAB F1100-C-S SERIES SMITH 2010 SERIES WADE 1100-G SERIES WATTS FD-100-M6-7 ZURN Z415S SERIES	CAST IRON	CAST IRON BODY, BOTTOM OUTLET, 6" X 6" SQUARE NICKEL BRONZE TOP, TRAP PRIMER CONNECTION, SEEPAGE PAN AND COMBINATION MEMBRANE FLASHING CLAMP	--	AS NOTED ON DWG.	--	--	--	--	

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SCHEDULES - PLUMBING

BUILDING No.:	DRAWING No.:
22	P-302

PLUMBING SPECIFICATIONS

GENERAL

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AS NECESSARY TO PROVIDE A COMPLETE INSTALLATION INCLUDING COORDINATION, SYSTEM CHECK OUT AND START UP ON EACH ITEM AND SYSTEM.

THIS CONTRACTOR SHALL INFORM HIMSELF FROM THE GENERAL CONSTRUCTION SPECIFICATIONS AND PLANS, OF THE EXACT DIMENSION OF FINISHED WORK AND OF THE HEIGHT OF FINISHED CEILINGS IN ALL ROOMS WHERE EQUIPMENT OR PIPES ARE TO BE PLACED AND ARRANGE HIS WORK IN ACCORDANCE WITH THE SCHEDULE OF INTERIOR FINISHES, AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

MANUFACTURER'S QUALIFICATIONS: FIRMS REGULARLY ENGAGED IN THE MANUFACTURER OF FIXTURES, APPLIANCES, PIPES AND PIPE FITTINGS OF TYPES AND SIZES REQUIRED, WHOSE PRODUCTS HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR NOT LESS THAN 5 YEARS.

MATERIAL QUALIFICATIONS: SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL/FEDERAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THESE SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.

WELDING: QUALIFY WELDING PROCEDURES, WELDERS, AND OPERATORS IN ACCORDANCE WITH ASME B31.1, OR ASME B31.9, AS APPLICABLE. CERTIFY WELDING OF PIPING WORK USING STANDARD PROCEDURE SPECIFICATIONS BY, AND WELDERS TESTED UNDER SUPERVISION OF, NATIONAL CERTIFIED PIPE WELDING BUREAU (NCPWB).

BRAZING: CERTIFY BRAZING PROCEDURES, BRAZERS, AND OPERATORS IN ACCORDANCE WITH ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX, FOR SHOP AND JOB-SITE BRAZING OF PIPING WORK.

RELATED DOCUMENTS

DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

DEFINITIONS

FINISHED SPACES: SPACES OTHER THAN MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, FURRED SPACES, PIPE CHASES, UNHEATED SPACES IMMEDIATELY BELOW ROOF, SPACES ABOVE CEILINGS, UNEXCAVATED SPACES, CRAWLSPACES, AND TUNNELS.

EXPOSED, INTERIOR INSTALLATIONS: EXPOSED TO VIEW INDOORS. EXAMPLES INCLUDE FINISHED OCCUPIED SPACES AND MECHANICAL EQUIPMENT ROOMS.

EXPOSED, EXTERIOR INSTALLATIONS: EXPOSED TO VIEW OUTDOORS OR SUBJECT TO OUTDOOR AMBIENT TEMPERATURES AND WEATHER CONDITIONS. EXAMPLES INCLUDE ROOFTOP LOCATIONS.

CONCEALED, INTERIOR INSTALLATIONS: CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING OCCUPANTS. EXAMPLES INCLUDE ABOVE CEILINGS AND IN CHASES.

CONCEALED, EXTERIOR INSTALLATIONS: CONCEALED FROM VIEW AND PROTECTED FROM WEATHER CONDITIONS AND PHYSICAL CONTACT BY BUILDING OCCUPANTS BUT SUBJECT TO OUTDOOR AMBIENT TEMPERATURES. EXAMPLES INCLUDE INSTALLATIONS WITHIN UNHEATED SHELTERS.

QUALITY ASSURANCE

STEEL SUPPORT WELDING: QUALIFY PROCESSES AND OPERATORS ACCORDING TO AWS D1.1, "STRUCTURAL WELDING CODE--STEEL."

STEEL PIPE WELDING: QUALIFY PROCESSES AND OPERATORS ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE: SECTION IX, "WELDING AND BRAZING QUALIFICATIONS."

COMPLY WITH PROVISIONS IN ASME B31 SERIES, "CODE FOR PRESSURE PIPING."

CERTIFY THAT EACH WELDER HAS PASSED AWS QUALIFICATION TESTS FOR WELDING PROCESSES INVOLVED AND THAT CERTIFICATION IS CURRENT.

ELECTRICAL CHARACTERISTICS FOR PLUMBING EQUIPMENT: EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICES, CIRCUIT BREAKERS, AND CONDUIT SIZES ARE APPROPRIATELY MODIFIED. IF MINIMUM ENERGY RATINGS OR EFFICIENCIES ARE SPECIFIED, EQUIPMENT SHALL COMPLY WITH REQUIREMENTS.

DELIVERY, STORAGE, AND HANDLING

DELIVER PIPES AND TUBES WITH FACTORY-APPLIED END CAPS. MAINTAIN END CAPS THROUGH SHIPPING, STORAGE, AND HANDLING TO PREVENT PIPE END DAMAGE AND TO PREVENT ENTRANCE OF DIRT, DEBRIS, AND MOISTURE.

STORE PLASTIC PIPES PROTECTED FROM DIRECT SUNLIGHT. SUPPORT TO PREVENT SAGGING AND BENDING.

COORDINATION

PREPARE AND SUBMIT COORDINATION DRAWINGS. REFER TO OTHER DIVISION 15 SECTIONS FOR REQUIREMENTS.

CLOSELY SCHEDULE THE WORK SO THAT WORK WILL BE INSTALLED AT THE PROPER TIME WITHOUT DELAYING THE COMPLETION OF THE ENTIRE PROJECT.

WHERE THE WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO THE WORK OF OTHER TRADES, OR WHERE THERE IS EVIDENCE THAT THE WORK WILL INTERFERE WITH THE WORK OF OTHER TRADES, ARRANGE SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF WORK IS INSTALLED BEFORE COORDINATING WITH OTHER TRADES, MAKE NECESSARY CHANGES TO THE WORK TO CORRECT THE CONDITION WITHOUT ADDITIONAL COST TO THE OWNER.

PREPARE COMPLETE SET OF DRAWINGS SHOWING ALL NECESSARY SLAB OPENINGS AND STRUCTURAL SUPPORTS THAT REQUIRE STRUCTURAL FRAMING. DRAWINGS SHALL CLEARLY INDICATE SIZES AND LOCATION RELATIVE TO ESTABLISHED COLUMN LINES. DRAWINGS SHALL BE COMPLETED IN SUFFICIENT TIME TO ALLOW FOR STRUCTURAL STEEL FABRICATION SO AS NOT TO DELAY PROJECT SCHEDULE.

SHOP DRAWING SUBMISSIONS SHALL DEMONSTRATE A KNOWLEDGE OF THE WORK OF OTHER TRADES, AND SHALL SHOW THE LOCATIONS OF THE WORK OF OTHER TRADES WHICH AFFECTS THE WORK OF THIS CONTRACT.

ARRANGE FOR PIPE SPACES, CHASES, SLOTS, AND OPENINGS IN BUILDING STRUCTURE DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR PLUMBING INSTALLATIONS.

COORDINATE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.

COORDINATE REQUIREMENTS FOR ACCESS PANELS AND DOORS FOR PLUMBING ITEMS REQUIRING ACCESS THAT ARE CONCEALED BEHIND FINISHED SURFACES. ACCESS PANELS AND DOORS ARE SPECIFIED IN DIVISION 8 SECTION "ACCESS DOORS AND FRAMES."

COORDINATION DRAWINGS

SHEET METAL, PLUMBING AND FIRE PROTECTION SHOP DRAWINGS THAT HAVE BEEN COORDINATED WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. DRAWINGS MUST BE RETURNED FROM ENGINEER EITHER "REVIEWED" OR "FURNISH AS CORRECTED" PRIOR TO BEING USED AS BASIS FOR COORDINATION DRAWINGS.

AFTER SHEET METAL AND PIPING DRAWINGS HAVE BEEN REVISED PER ENGINEERS COMMENTS, REPRODUCIBLE COPIES SHALL BE SENT TO THE OTHERS TRADES IN THE FOLLOWING SEQUENCE FOR THE INCLUSION OF THEIR WORK:

PLUMBING CONTRACTOR
ELECTRICAL WORK
MECHANICAL PIPING
SPRINKLER PIPING

PRIOR TO INCLUSION OF SPRINKLER PIPING AND EQUIPMENT, CONTRACTOR SHALL HAVE SUBMITTED SPRINKLER PLANS AND CALCULATIONS TO ENGINEER FOR REVIEW AND TO RATING BUREAU FOR REVIEW.

AFTER ALL TRADES HAVE INCLUDED THEIR WORK ON THE COORDINATION DRAWING AND NOTED CONFLICTS, ALL TRADES SHALL MEET TO RESOLVE CONFLICTS AND AGREE TO ACCEPTABLE SOLUTIONS. EACH TRADE SHALL SIGN COORDINATION DRAWINGS. ITEMS NOT SHOWN ON COORDINATION DRAWING IS RESPONSIBILITY OF OMITTING CONTRACTOR AND CONTRACTOR IS SUBJECT TO ADDITIONAL COSTS INCURRED BY OTHER TRADES.

THE ARCHITECT AND ENGINEER ARE NOT PART OF THE COORDINATION DRAWING PROCESS. THE ENGINEER WILL PROVIDE ASSISTANCE RELATIVE TO ACCEPTABILITY OF INSTALLATIONS.

SUBMIT FINAL SIGNED COORDINATION DRAWING TO ENGINEER FOR REVIEW. ENGINEER WILL REVIEW FOR ACCEPTABILITY OF INSTALLATIONS.

ANY WORK FABRICATED OR INSTALLED PRIOR TO SIGN OFF BY ALL TRADES SHALL BE REMOVED AND RE-INSTALLED IN CONFORMANCE WITH COORDINATION DRAWINGS.

EACH CONTRACTOR (MENTIONED ABOVE) IS RESPONSIBLE FOR THE COORDINATION OF HIS SUB-CONTRACTORS.

THE OVERALL COORDINATION OF THE COORDINATION PROCESS IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE ENGINEER IS NOT RESPONSIBLE FOR THE COORDINATION PROCESS. THE ENGINEER WILL RESPOND TO QUESTIONS THAT ARISE FROM THE COORDINATION PROCESS. DRAWINGS SUBMITTED WILL BE REVIEWED FOR CLEARLY IDENTIFIED CONFLICTS ONLY. SOLUTIONS TO CONFLICTS WILL NOT BEAR ADDITIONAL COST.

AS BUILT DRAWINGS

PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS REFLECTING AS INSTALLED CONDITIONS. AS-BUILT DRAWINGS SHALL INDICATE ALL INSTALLED CONDITIONS OF SYSTEMS WITHIN THIS DISCIPLINE. DRAWINGS SHALL BE OF SIMILAR SCALE AS THE CONSTRUCTION DOCUMENTS AND INCLUDE DETAILS AS NECESSARY TO CLEARLY REFLECT THE INSTALLED CONDITION. DRAWINGS SHALL BE BOUND IN A COMPLETE AND CONSECUTIVE SET. SUPPLEMENTAL SKETCHES AND LOOSE PAPERWORK WILL NOT BE ACCEPTABLE AND WILL BE RETURNED FOR REVISION. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERS COMMENTS TO PRODUCE A CLEAR AND CONCISE SET OF DRAWINGS. DRAWINGS SHALL BE SUBMITTED IN BOTH HARD COPY AND ELECTRONIC (AUTO-CAD VERSION AS REQUIRED BY THE OWNER) VERSION. NUMBER OF COPIES OF EACH AS REQUESTED BY THE OWNER.

PROVIDE "AS-BUILT DRAWINGS" INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN OF THE WORK. INDICATE THE FOLLOWING INSTALLED CONDITIONS:

INCLUDE ALL CHANGES AND AN ACCURATE RECORD, ON REPRODUCTIONS OF THE CONTRACT DRAWINGS OR APPROPRIATE SHOP DRAWINGS, OF ALL DEVIATIONS, BETWEEN THE WORK SHOWN AND WORK INSTALLED.

MAINS AND BRANCHES OF PIPING SYSTEMS, WITH VALVES AND CONTROL DEVICES LOCATED AND NUMBERED, CONCEALED UNIONS LOCATED, AND WITH ITEMS REQUIRING MAINTENANCE LOCATED (I.E., TRAPS, STRAINERS, EXPANSION COMPENSATORS, TANKS, ETC.). VALVE LOCATION DIAGRAMS, COMPLETE WITH VALVE TAG CHART.

EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.

APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.

CONTRACT MODIFICATIONS, ACTUAL EQUIPMENT AND MATERIALS INSTALLED.

SUBMIT FOR REVIEW BOUND SETS OF THE REQUIRED DRAWINGS, MANUALS AND OPERATING INSTRUCTIONS.

PIPE MATERIALS

REFER TO SCHEDULE ON DRAWING.
PIPE LABELS
GENERAL REQUIREMENTS FOR MANUFACTURED PIPE LABELS: PREPRINTED, COLOR-CODED, WITH LETTERING INDICATING SERVICE, AND SHOWING FLOW DIRECTION.
PRETENSIONED PIPE LABELS: PRECOILED, SEMIRIGID PLASTIC FORMED TO COVER FULL CIRCUMFERENCE OF PIPE AND TO ATTACH TO PIPE WITHOUT FASTENERS OR ADHESIVE.
SELF-ADHESIVE PIPE LABELS: PRINTED PLASTIC WITH CONTACT-TYPE, PERMANENT-ADHESIVE BACKING.
PIPE LABEL CONTENTS: INCLUDE IDENTIFICATION OF PIPING SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON DRAWINGS, PIPE SIZE, AND AN ARROW INDICATING FLOW DIRECTION.
FLOW-DIRECTION ARROWS: INTEGRAL WITH PIPING SYSTEM SERVICE LETTERING TO ACCOMMODATE BOTH DIRECTIONS OR AS SEPARATE UNIT ON EACH PIPE LABEL TO INDICATE FLOW DIRECTION.

LETTERING SIZE: AT LEAST 1-1/2 INCHES HIGH.

VALVE TAGS

VALVE TAGS: STAMPED OR ENGRAVED WITH 1/4-INCH LETTERS FOR PIPING SYSTEM ABBREVIATION AND 1/2-INCH NUMBERS.

TAG MATERIAL: BRASS, 0.032-INCH MINIMUM THICKNESS, AND HAVING PREDRILLED OR STAMPED HOLES FOR ATTACHMENT HARDWARE.

FASTENERS: BRASS WIRE-LINK OR BEADED CHAIN; OR S-HOOK.

VALVE SCHEDULES: FOR EACH PIPING SYSTEM, ON 8-1/2-BY-11-INCH BOND PAPER. TABULATE VALVE NUMBER, PIPING SYSTEM, SYSTEM ABBREVIATION (AS SHOWN ON VALVE TAG), LOCATION OF VALVE (ROOM OR SPACE), NORMAL-OPERATING POSITION (OPEN, CLOSED, OR MODULATING), AND VARIATIONS FOR IDENTIFICATION. MARK VALVES FOR EMERGENCY SHUTOFF AND SIMILAR SPECIAL USES.

VALVE-TAG SCHEDULE SHALL BE INCLUDED IN OPERATION AND MAINTENANCE DATA.

PIPE HANGERS, SUPPORTS, SEISMIC RESTRAINT, AND VIBRATION ISOLATION

SEISMIC RESTRAINT: PROVIDE SEISMIC RESTRAINT OF ALL PLUMBING EQUIPMENT AND SYSTEMS IN ACCORDANCE WITH STATE BUILDING CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT INDICATING ALL NECESSARY COMPONENT CUTS, PLAN LOCATIONS AND CALCULATIONS FOR A COMPLETE SYSTEM. REFER TO OTHER DIVISION 15 REQUIREMENTS.

PROVIDE NECESSARY STRUCTURAL MEMBERS, HANGERS AND SUPPORTS OF APPROVED DESIGN TO KEEP PIPING IN PROPER ALIGNMENT AND PREVENT TRANSMISSION OF INJURIOUS THRUSTS AND VIBRATIONS. IN ALL CASES WHERE HANGERS, BRACKETS, ETC., ARE SUPPORTED FROM CONCRETE CONSTRUCTION, DO NOT WEAKEN CONCRETE OR PENETRATE WATERPROOFING. ALL HANGERS AND SUPPORTS SHALL BE CAPABLE OF SCREW ADJUSTMENT AFTER PIPING IS ERECTED. HANGERS SUPPORTING PIPING EXPANDING INTO LOOPS, BENDS AND OFFSETS SHALL BE SECURED TO THE BUILDING STRUCTURE IN SUCH A MANNER THAT HORIZONTAL ADJUSTMENT PERPENDICULAR TO THE RUN OF PIPING SUPPORTED MAY BE MADE TO ACCOMMODATE DISPLACEMENT DUE TO EXPANSION. ALL SUCH HANGERS SHALL BE FINALLY ADJUSTED BOTH IN THE VERTICAL AND HORIZONTAL DIRECTION, AS REQUIRED. HANGERS IN CONTACT WITH COPPER OR BRASS PIPE SHALL BE DIELECTRIC, COMPATIBLE WITH COPPER AND BRASS ALLOY OR PROVIDED WITH FELT SLEEVE.
INSULATION

INSULATION
REFER TO SCHEDULE ON DRAWING.
ALL INSULATING MATERIALS SHALL COMPLY WITH THE FOLLOWING RATINGS:

FLAMESPREAD -25
SMOKE DEVELOPED -50
FUEL CONTRIBUTED -50

FIBERGLASS PIPING INSULATION (INTERIOR)
MOLDED FIBROUS GLASS WITH 3.5 POUNDS MINIMUM DENSITY, MAXIMUM K = .3 AT 200 DEGREE F, MEAN AND RATED TO 450 DEGREE F. THE INSULATION SHOULD BE SECTIONAL PIPE JACKETED WITH AN EMBOSSED VAPOR BARRIER LAMINATE.

MANUFACTURERS:

OWENS-CORNING, TYPE 25 ASJ
KNAUF - PIPE INSULATION WITH ASJ
CERTAINTEED - TYPE 500 SNAP-ON WITH ASJ
MANVILLE - MICRO-LOK 650 WITH AP JACKET

D,TYPE G - FIBERGLASS INSULATION FOR VALVES, FITTINGS, FLANGES (VAPOR SEAL INSULATION),

MOLDED, FACTORY-FORMED FIBROUS GLASS WITH 3.5 PCF MINIMUM DENSITY, MAX, K = .3 AT 200F, MEAN, RATED TO 450 DEGREE F. ALL JOINTS TO BE SEALED WITH VAPOR BARRIER ADHESIVE AND WRAPPED WITH GLASS MESH TAPE. EACH FITTING TO BE FINISHED WITH TWO COATS OF BENJAMIN FOSTER 30-36 VAPOR SEAL.

VALVES

GENERAL: APPROVED MANUFACTURERS; NOBCO, APOLLO, STOCKHOLM.

REFER TO SCHEDULE ON DRAWING.

PIPE SLEEVES AND SEALS

MASONRY WALLS AND SLABS: SCHEDULE 40 GALVANIZED STEEL PIPE WITH INTEGRAL WATER STOP.

SLEEVE ADAPTERS: COATED CAST IRON, EQUIPPED WITH FLASHING CLAMP.

CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH PARTITIONS, SLABS AND/OR CEILINGS WITH A U.L. APPROVED FIRE/SMOKE STOP TO MAINTAIN THE INTEGRITY OF THE RESPECTIVE RATING INCLUDING SMOKE TIGHT PARTITIONS.

CLEANOUTS

REFER TO SCHEDULE ON DRAWING.
PLUMBING FIXTURES

FIXTURES: NEW, COMPLETE WITH TRIMMINGS AND FITTINGS, INCLUDING FAUCETS, CARRIERS, SUPPLIES, STOPS, TRAPS, TAILPIECES, WASTE PLUGS, CASINGS, HANGERS, PLATES, BRACKETS, ANCHORS, SUPPORTS, HARDWARE AND FASTENING DEVICES.

STAINLESS STEEL: TYPE 302, 304, 316, OR 317, AS NOTED, SOUND DEADENED,

TRIMMINGS AND FITTINGS: CONSTRUCT OF FORGED, CAST, ROLLED OR EXTRUDED BRASS OR BRONZE WITH MONEL AND OTHER SUITABLE NON-CORROSIVE PARTS: DESIGNED WITH EASILY RENEWABLE PARTS THAT ARE SUBJECT TO WEAR OR DETERIORATION. NO DIE CASTINGS AND STAMPINGS OTHER THAN BRASS OR STAINLESS STEEL.

REFER TO SCHEDULE ON DRAWING.

MISCELLANEOUS PLUMBING SPECIALTIES

WATER HAMMER ARRESTORS: ALL STAINLESS STEEL, MECHANICAL-PNEUMATIC TYPE, HERMETICALLY SEALED BELLOWS, THREADED INLET; 150 PSI WWP. SIZE AND PLACEMENT DETERMINATION: PDI-WH 201.

MANUFACTURER: PRECISION PLUMBING PRODUCTS SC SERIES.

AIR VENT: BRONZE BODY, STAINLESS STEEL TRIM AND FLOAT, THREADED INLET AND OUTLET; 150 PSI WWP.

MANUFACTURER: SARCO 13W SERIES.

ACCESS DOORS IN WALLS AND CEILINGS

AT EACH VALVE, CLEANOUT OR PLUMBING DEVICE REQUIRING ACCESS, FURNISH AN ACCESS DOOR, RIGID CONSTRUCTION WITH TWO HINGES AND A LATCH. IN PLENUM CEILINGS, PROVIDE FELT BETWEEN THE DOOR AND FRAME TO MAKE AN AIR TIGHT SEAL. ACCESS DOORS SHALL BE FLUSH MOUNTED, PRIME COATED WITH RUST INHIBITIVE PAINT, CONCEALED FRAME, FLUSH SCREW DRIVER OPERATED LOCKS WITH METAL CAMS AND ANCHORS AS REQUIRED. REFER TO DIVISION 8 FOR ADDITIONAL REQUIREMENTS.

ACCESS DOOR SIZES SHALL BE:
12" X 12" AT EASILY ACCESSIBLE ITEMS.
16" X 16" WHERE PARTIAL BODY ACCESS IS REQUIRED.
24" X 24" WHERE FULL BODY ACCESS IS REQUIRED.

MANUFACTURER: MILCOR TYPE M SERIES, CESCO SERIES.

EXECUTION

GENERAL

THIS CONTRACTOR SHALL INFORM HIMSELF FROM THE GENERAL CONSTRUCTION SPECIFICATIONS AND PLANS, OF THE EXACT DIMENSION OF FINISHED WORK AND OF THE HEIGHT OF FINISHED CEILINGS IN ALL ROOMS WHERE EQUIPMENT OR PIPES ARE TO BE PLACED AND ARRANGE HIS WORK IN ACCORDANCE WITH THE SCHEDULE OF INTERIOR FINISHES, AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

MANUFACTURER'S QUALIFICATIONS: FIRMS REGULARLY ENGAGED IN THE MANUFACTURER OF FIXTURES, APPLIANCES, PIPES AND PIPE FITTINGS OF TYPES AND SIZES REQUIRED, WHOSE PRODUCTS HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR NOT LESS THAN 5 YEARS.

MATERIAL QUALIFICATIONS: SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL/FEDERAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THESE SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.

WELDING: QUALIFY WELDING PROCEDURES, WELDERS, AND OPERATORS IN ACCORDANCE WITH ASME B31.1, OR ASME B31.9, AS APPLICABLE. CERTIFY WELDING OF PIPING WORK USING STANDARD PROCEDURE SPECIFICATIONS BY, AND WELDERS TESTED UNDER SUPERVISION OF, NATIONAL CERTIFIED PIPE WELDING BUREAU (NCPWB).

BRAZING: CERTIFY BRAZING PROCEDURES, BRAZERS, AND OPERATORS IN ACCORDANCE WITH ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX, FOR SHOP AND JOB-SITE BRAZING OF PIPING WORK.

COORDINATION OF WORK

CAREFULLY COORDINATE SPACE REQUIREMENTS WITH OTHER TRADES TO INSURE THAT ALL MATERIALS CAN BE INSTALLED IN SPACES ALLOTTED THERETO, INCLUDING FINISHED SUSPENDED CEILINGS.

PREPARE AND SUBMIT COORDINATION DRAWINGS.

ALTERATION WORK

ALL EQUIPMENT, FIXTURES, PIPING, ETC, TO BE REMOVED, SHALL BE DISPOSED OF, TURNED OVER TO THE OWNER, OR SALVAGED AS DIRECTED BY THE OWNER. EQUIPMENT, FIXTURES, PIPING, DEVICES, ETC, SHALL NOT BE REMOVED FROM THE PREMISES WITHOUT THE OWNER'S APPROVAL.

WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE OWNER'S AND PROJECT SCHEDULE AND PHASING. PROVIDE TEMPORARY SERVICES AND CONNECTIONS TO ACCOMMODATE THESE REQUIREMENTS, THE SHUTDOWN OR TRANSFERENCE OF SYSTEMS SHALL BE COORDINATED WITH THE OWNERS REQUIREMENTS.

ALL PIPING TO REMAIN SHALL BE PROPERLY PLUGGED, VALVED, CAPPED AND/OR BY PASSED SUCH THAT UPON COMPLETION OF WORK ALL ABANDON SYSTEMS ARE PROPERLY CONCEALED, AND THAT EXISTING SYSTEMS TO REMAIN, REMAIN OPERATIONAL.

NO DEAD ENDS SHALL BE LEFT ON ANY PIPING SYSTEMS UPON COMPLETION OF WORK.

EXISTING EXPOSED PIPING SYSTEMS NOT TO BE REUSED, AND NOT SPECIFICALLY NOTED FOR REMOVAL SHALL BE COMPLETELY REMOVED.

ALL SYSTEMS SHALL BE LEFT IN WORKING ORDER TO THE SATISFACTION OF THE OWNER UPON COMPLETION OF ALL NEW WORK.

ALL EXISTING EXPOSED, UNNECESSARY PIPING RELATED TO NEW WORK SHALL BE COMPLETELY REMOVED.

ALL PIPING NEW AND EXISTING TO REMAIN SHALL BE CONCEALED. RE-ROUTE OR REMOVE ALL EXISTING PIPING, AND SYSTEMS WHERE NECESSARY TO AVOID NEW EQUIPMENT, STRUCTURAL, MASONRY WORK OR AS REQUIRED BY THE PROPOSED ALTERATIONS.

PLUMBING FIXTURES

THE FIXTURES SHALL BE FURNISHED COMPLETE WITH CHROME PLATING ON EXPOSED PIPING OR TRIM. PROVIDE ANCHOR BOLTS, HANGERS, STRAINERS, FAUCETS AND OTHER INCIDENTAL ITEMS FURNISHED AS STANDARD. PROVIDE LOOSE KEY STOPS AT EVERY FIXTURE. ALL SUPPLY FITTINGS AND EXPOSED FIXTURE TRIM SHALL BE ALL BRASS, CHROME PLATED.

EXAMINE ROUGHING-IN WORK OF POTABLE WATER AND WASTE PIPING SYSTEMS TO VERIFY ACTUAL LOCATIONS OF PIPING CONNECTIONS PRIOR TO INSTALLING FIXTURES. CORRECT ANY INCORRECT LOCATION OF PIPING, AND OTHER UNSATISFACTORY CONDITIONS FOR INSTALLATION OF PLUMBING FIXTURES. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO THE ENGINEER. ALL ROUGH-IN TO PLUMBING FIXTURES SHALL CONFORM TO FIXTURE MANUFACTURER PUBLISHED ROUGH-IN DIMENSIONS, AND REQUIREMENTS.

UPON COMPLETION OF INSTALLATION OF PLUMBING FIXTURES AND AFTER UNITS ARE WATER PRESSURIZED, TEST FIXTURES TO DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS. CORRECT MALFUNCTIONING UNITS AT SITE, THEN RETEST TO DEMONSTRATE COMPLIANCE; OTHERWISE, REMOVE AND REPLACE WITH NEW UNITS AND PROCEED WITH RETESTING.

INSPECT EACH INSTALLED UNIT FOR DAMAGE TO FINISH. IF DAMAGED, RESTORE AND MATCH FINISH TO ORIGINAL AT SITE TO THE SATISFACTION OF THE ARCHITECT/ENGINEER; OTHERWISE, REMOVE FIXTURE AND REPLACE WITH NEW UNIT. REMOVE CRACKED OR DENTED UNITS AND REPLACE WITH NEW UNITS.

CLEAN PLUMBING FIXTURES, TRIM, AND STRAINERS OF DIRT AND DEBRIS UPON COMPLETION OF INSTALLATION.

SET FIXTURES LEVEL AND UNIFORMLY, WITH CONNECTIONS AT RIGHT ANGLES TO WALL AND PROPERLY CENTERED. LAY OUT ROUGHING ACCURATELY AND IN COORDINATION WITH SPACE AND FINISH REQUIREMENTS. IF FIELD CUT-OUTS AND HOLES ARE REQUIRED USE PROPER CUTTING AND DRILLING TOOLS TO MAINTAIN INTEGRITY OF FINISHED SURFACE. PROVIDE CUT-OUT TEMPLATES FOR COUNTERTOP INSERT OR UNDERMOUNT ITEMS.

LOCATE WASTE OUTLETS AND WATER SUPPLIES AT CONSTANT HORIZONTAL LEVELS, WITH WASTE OUTLET CENTERED ON FIXTURE DRAIN CONNECTION AND WATER SUPPLIES SPACED EQUALLY TO RIGHT AND LEFT.

PENETRATIONS THROUGH FIRE SEPARATIONS

FIRE AND SMOKE SEAL: UL LISTED, APPROVED AND TESTED FIRE AND/OR SMOKE SEALING MATERIAL INSTALLED IN ALL FIRE AND/OR SMOKE RATED FLOOR AND PARTITIONS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

DISINFECTION OF POTABLE WATER SYSTEM

POTABLE WATER SYSTEMS SHALL BE DISINFECTED IN ACCORDANCE WITH STATE AND LOCAL CODES BUT BY NOT LESS THAN ONE OF THE FOLLOWING METHODS BEFORE IT IS PLACED IN OPERATION:

THE SYSTEM, OR PART THEREOF, SHALL BE FILLED WITH A SOLUTION CONTAINING 50 PARTS PER MILLION OF AVAILABLE CHLORINE AND ALLOWED TO STAND 24 HOURS BEFORE FLUSHING AND RETURNING TO SERVICE.

THE SYSTEM, OR PART THEREOF, SHALL BE FILLED WITH A SOLUTION CONTAINING 200 PARTS PER MILLION OF AVAILABLE CHLORINE AND ALLOWED TO STAND 3 HOURS BEFORE FLUSHING AND RETURNING TO SERVICE.

TESTS

GENERAL: TEST PLUMBING SYSTEMS TO SATISFACTION OF BUILDING OFFICIAL. DO NOT CLOSE IN, CONCEAL, OR COVER UP ANY PLUMBING WORK UNTIL IT HAS BEEN TESTED, INSPECTED, AND APPROVED.

FLUSH PIPING, PRIOR TO TESTING, TO REMOVE FOREIGN MATERIALS WHICH MAY HAVE ENTERED DURING COURSE OF INSTALLATION.

REPAIR ALL LEAKS, DEFECTS OR DAMAGE REVEALED BY THE RESULTS OF THE TESTING AND RE-TEST THE SYSTEM.

DO NOT INSULATE OR CONCEAL PIPING UNTIL THE SYSTEM HAS BEEN TESTED AND THE RESULTS APPROVED.

PERFORM TESTS IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION. NOTIFY ARCHITECT AND/OR ENGINEER.

Central Connecticut State University
1615 Stanley Street
New Britain, CT 06050

OakPark Architects LLC
312 Park Rd, W. Hartford, CT (860)232-6664

KOHLER RONAN, LLC
CONSULTING ENGINEERS
93 Lake Avenue, Danbury, CT 06810
203.778.1017 F 203.778.1018
171 Madison Avenue,
New York, NY 10016
212.695.2422 F 212.695.2423
www.kohlerronan.com
E-mail krce@kohlerronan.com

REVISIONS

NUMBER	DATE	DESCRIPTION

MEDIA CENTER RELOCATION TO ELIHU BURRITT LIBRARY

KEY PLAN
NOT TO SCALE

N
W E
S

CCSU PROJECT No.:	22-87
DPW PROJECT No.:	BI-RC-397
DRAWN BY:	AF
DATE:	6/14/2016
CAD FILE:	

SPECIFICATIONS - PLUMBING

BUILDING No.:	DRAWING No.:
22	P-401